	Low BNP (n=421)	High BNP (n=418)	P-value
30-day Major Bleeding	6.5%	10.9%	0.0238
30-d MACE	4.1%	7.9%	0.0199
30-d Death	1.4%	7.9%	0.0083
30-d Reinfarction	2.2%	1.9%	0.8343
30-dStroke	0.2%	1.2%	0.0977
30-d TVR	2.4%	2.0%	0.6556
30-d Stent thrombosis	1.9%	1.9%	0.9893
2-year MACE	16%	26%	0.0007
2-y death	2.5%	8.4%	0.0002
2-y Reinfarction	5.8%	7.7%	0.3578
2-y Stroke	0.5%	3.2%	0.0065
2-y TVR	13%	15%	0.3231
2- Stent Thrombosis	3.7%	4.3%	0.7222

Conclusions: High baseline BNP level is a marker of significant comorbidities and is a strong predictor of major bleeding, as well as early and late major adverse cardiac events, mortality and stroke after STEMI treated with primary PCI.

TCT-434

Primary PCI for STEMI Patients With the Onset of Symptoms Between 12 and 24 Hours Before Hospital Admission. Results From the PL-ACS Registry

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Background: Optimal management for ST-segment elevation myocardial infarction (STEMI) patients who present to the hospital late remains uncertain. The aim of this analysis was to assess current use of invasive treatment applied in patients presenting between 12 and 24 hours from the onset of symptoms and the influence of this invasive approach on 12-month mortality in clinical practice.
Methods: Among 23 517 STEMI patients enrolled in 385 hospitals from June 2005 to August 2006 into the prospective Polish Registry of Acute Coronary Syndromes, 2137 were (10.6%) had pre-hospital delay ranging from 12 to 24 hours.
Results: Invasive approach (coronary angiography between 12-14 hours from the onset of STEMI) was chosen in 932 (43.6%) of patients. The clinical characteristics of invasive group was of lower risk. The in-hospital and 12-month outcomes are shown in the table. After adjustment both groups with the propensity score method invasive approach showed a strong trend towards lower 12-month mortality (11.7% vs 15.1%; p=0.055).

	Conservative approach	Invasive approach	P value
Stroke, n (%)	9 (0.7%)	7 (0.8%)	0.77
Recurrent myocardial infarction, n (%)	63 (5.2%)	24 (2.6%)	0.0004
Death, n (%)	98 (8.1%)	30 (3.2%)	<0.0001
Combined in-hospital outcome, n (%)	166 (13.8%)	64 (6.9%)	<0.0001
12-months mortality, n (%)	239 (19.8%)	97 (10.4%)	<0.0001

Conclusion: Our result indicate that the time-window for invasive treatment of STEMI patients should be extended up to 24 hours.

TCT-435

Clinical Outcomes in Patients with Right Coronary vs. Left Circumflex Artery Myocardial Infarction Treated With Primary PCI: Results of the HORIZONS-AMI Trial

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Background: Primary PCI in patients with left anterior descending (LAD) myocardial infarction (MI) compared with non-LAD MI (right [RCA] and circumflex coronary [LCX]) has been associated with poor clinical outcomes. The prognostic implications of primary PCI of RCA vs. LCX has not been examined in a large-scale multicenter prospective study.
Methods: The HORIZONS-AMI trial randomized 3602 pts with STEMI undergoing primary PCI to bivalirudin (n=1,800) vs. UFH+GPI (n=1,802), with a second 3:1 randomization in 3006 stent eligible pts to the Taxus stent vs. the bare metal Express stent. After excluding patients with PCI in the LAD, we compared the group of 1,500 patients who had PCI in the RCA to the group of 566 who had PCI of a LCX culprit artery. Clinical follow-up has been completed to 2 years.
Results: Baseline clinical characteristics were similar between 2 groups. Patients with RCA compared to LCX infarcts had significantly higher rates of baseline severe heart block (3.6% vs. 1.1%; p=0.002) and thrombus present (84.7% vs. 79.7%; p=0.007), but similar rates of final TIMI 3 flow (89.3% vs. 90.4%; p=0.46). RCA compared to LCX infarcts also had larger baseline reference vessel diameter (3.05 vs. 2.76 mm; p<0.0001) and final minimal lumen diameter (2.51 vs. 2.23 mm; p=0.0001). Thirty-day and 2-year clinical outcomes are summarized in Table. By multivariable analysis, LCX was an independent predictor of reinfarction (HR 2.00 [1.05, 3.85] p=0.03) and composite death or MI (HR 1.61 [1.00, 2.63] p=0.05) at 30-days, but not at 2-years.

Variable	RCA	LCx	p value
30-days			
NACE	10.0%	11.5%	0.33
MACE	4.5%	5.7%	0.26
Death	1.7%	2.5%	0.28
Reinfarction	1.5%	3.4%	0.009
Death or reinfarction	3.1%	5.1%	0.03
TVR	2.1%	3.6%	0.05
Definite/probable ST	2.3%	3.3%	0.20
2-years			
NACE	22.3%	23.7%	0.45
MACE	17.1%	19.3%	0.21
Death	3.9%	5.1%	0.25
Reinfarction	5.7%	6.4%	0.50
Death or reinfarction	9.0%	10.4%	0.30
TVR	11.7%	14.7%	0.06
Definite/probable ST	4.7%	4.5%	0.91

NACE, Net adverse clinical events: MACE or non-CABG major bleeding; MACE, major adverse cardiovascular events: death, myocardial infarction, ischemic target vessel revascularization (TVR) or stroke. ST: stent thrombosis by ARC definition

Conclusions: In this large-scale, multicenter, prospective, randomized trial, STEMI in the LCX compared with RCA territory was associated with higher rates of MI and death/MI at 30-days, differences which were no longer present at 2 years.

TCT-436

Incidence, Severity and Predictors of Congestive Heart Failure Following Primary PCI: The HORIZONS-AMI trial

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Background: Congestive heart failure (CHF) is a major source of morbidity, mortality and healthcare resource consumption. However, the incidence of symptomatic CHF developing after primary percutaneous coronary intervention (PPCI) for ST-segment elevation myocardial infarction (STEMI) is poorly documented. We therefore examined the early and late occurrence of CHF in the large-scale prospective HORIZONS-AMI trial.
Methods: Data on New York Heart Association (NYHA) functional class were prospectively collected at baseline, 30 days, 6 months, and at 1 and 2 years from 3,343 patients with STEMI undergoing PPCI at 123 centers in 11 countries.
Results: The baseline incidence of CHF (prior to the index STEMI) was 2.6%, rising to 4.6% 1 month after PPCI (p<0.0001), 4.7% at 1 year, and 5.1% at 2 years. The incidence of NYHA class III/IV symptoms was 0.4% at baseline and 0.8% at 2 years (p=0.03). CHF at 1 year was more common in pts with diabetes (27.6% vs. 15.1%, p<0.0001), dyslipidiaemia (53.8% vs. 42.7%, p=0.009), previous MI (20.7% vs. 9.4%, p<0.0001), previous PCI/CABG (24.8% vs. 12.1%, p=0.01), anterior STEMI (50% vs. 40.1%, p=0.02), and complete vessel occlusion (TIMI grade 0 flow) at angiography (66% vs. 55.7%, p=0.01). Use of drug-eluting vs. bare metal stents did not influence the rate of CHF (p=0.66), nor did peri-procedural use of bivalirudin vs. heparin + GPIIb/IIIa inhibitors (p=0.93). Time from symptom onset to balloon inflation did not correlate with CHF (p=0.51).
Conclusion: In the HORIZONS-AMI trial, only 2% of patients without baseline CHF developed new onset CHF shortly after PPCI, usually NYHA class I/II, with few new cases developing after 30 days. This represents a doubling of the baseline frequency of symptomatic CHF following contemporary PPCI, and the absolute rate may be higher in a less selected population. As the first robust examination of CHF following contemporary PPCI, these data have important societal healthcare implications.

TCT-437

Mehran Contrast-Induced Nephropathy Risk Score Predicts Short- And Long-term Clinical Outcomes In Patients With ST-Elevation Myocardial Infarction

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Background: The Mehran Risk Score (MRS) has been demonstrated to be clinically useful for prediction of CIN after non-urgent percutaneous coronary intervention (PCI). We aim to validate the MRS in the setting of Primary PCI for prediction of both contrast-induced Nephropathy (CIN) and short- and long-term clinical outcomes.
Methods: We assigned 891 consecutive STEMI patients undergoing primary PCI to four groups of Risk of CIN (RC) according to MRS (Low, Medium, High and Very High Risk). We evaluated CIN, death, Major Cardiovascular and Cerebrovascular Events (MACCE) after 25 months mean follow-up.
Results: At multivariate analysis, mortality in very high risk group was more than 10-fold higher (hazard ratio [HR] 10.11, 95% CI, 4.83-21.1, p<0.001) when compared with low risk group and was also increased in high risk group (HR 6.31, 95% CI, 3.28-12.14, p<0.001) and medium risk group (HR 3.18, 95%CI, 1.83-5.51, p<0.001). Similarly an increasing effect was seen across MRS strata for MACCE both in the very high risk group (HR 3.79, 95% CI 2.27-6.6.32, p<0.001), high risk group (HR 1.90, 95% CI, 1.31-2.75, p=0.001), and medium risk group (HR 1.42, 95% CI, 1.10-1.85, p=0.007). In addition, the HR for rehospitalization increased with the increasing RC groups (HR 3.32, 95%CI 1.96-5.63, p<0.001; HR 3.11, 95%CI 1.35-7.20, p=0.008; HR 7.73 95%CI 2.97-20.10 p<0.001 respectively). The Odds Ratio for CIN was 2.84 (95%CI 1.16-6.92, p=0.021) in the very high RC group, 1.33 (95%CI 0.68-2.61, p=0.398) in high RC group and 1.10 (95%CI 0.67-1.79, p=0.699 in the medium RC group, as compared to the lower one.
Conclusions: The MRS may be applied in the primary angioplasty setting population and is able to predict CIN and to stratify patients for poor clinical outcomes both in the short- and long-term follow-up.